(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

(10) International Publication Number WO 2004/053717 A2

(51) International Patent Classification⁷:

G06F 15/80

(21) International Application Number:

PCT/IB2003/005625

(22) International Filing Date:

28 November 2003 (28.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/432.801

12 December 2002 (12.12.2002) US

60/478,333 13 June 2003 (13.06.2003) US

- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BURNS, Geoffrey F., [US/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US). VAIDYANATHAN, Krishna [US/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).
- (74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS N.V.; c/o Waxler, Aaron, P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

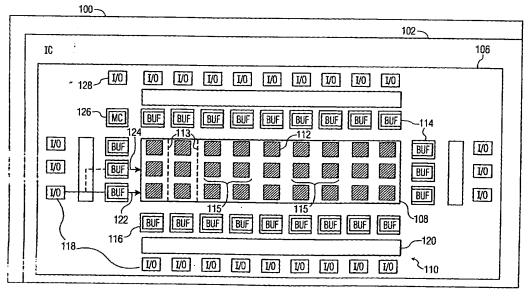
as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MODULAR INTEGRATION OF AN ARRAY PROCESSOR WITHIN A SYSTEM ON CHIP



(57) Abstract: A systolic array processor is integrated within a system on chip (SoC) in a format that is compatible with existing and emerging SoC technologies. The systolic array processor may be implemented as a co-processor to a general-purpose digital signal processor or as a functional unit of a very long instruction word (VLIW) processor.